

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Filed

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

PTO/SB/08a (01-10)

Approved for use through 07/31/2012. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number		10578946
	Filing Date		2007-02-05
	First Named Inventor	John SantaLucia	
	Art Unit	1631	
	Examiner Name	ERIC S. DEJONG	
	Attorney Docket Number	DNASOFT-10963	

IDS Filed on 12/18/2010 -- /E.D./ 12/18/2010

U.S.PATENTS						
Examiner Initial*	Cite No	Patent Number	Kind Code <sup>1</sup>	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	6178384		2001-01-23	KOLOSSVARY	Whole Document
	2	6188965		2001-02-13	MAYO et al.	Whole Document
	3	6925394		2005-08-02	Ramakrishnan et al.	Whole Document
	4	7079956		2006-07-18	Ramakrishnan et al.	Whole Document
	5	7606670		2009-10-20	Ramakrishnan et al.	Whole Document
	6	6947845		2005-09-20	Steitz et al.	Whole Document
	7	7666849		2010-02-23	Steitz et al.	Whole Document
	8	6631329		2003-10-07	Wang et al.	Whole Document

/Eric Dejong/

12/18/2010

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**  
( Not for submission under 37 CFR 1.99)

Application Number	10578946
Filing Date	2007-02-05
First Named Inventor	John SantaLucia
Art Unit	1631
Examiner Name	ERIC S. DEJONG
Attorney Docket Number	DNASOFT-10963

9	6638908		2003-10-28	Steitz et al.	Whole Document
10	6939848		2005-09-06	Steitz et al.	Whole Document
11	6947844		2005-09-20	Steitz et al.	Whole Document
12	6952650		2005-10-04	Steitz et al.	Whole Document
13	7504486		2009-03-17	Steitz et al.	Whole Document
14	7133783		2006-11-07	Noller et al.	Whole Document

If you wish to add additional U.S. Patent citation information please click the Add button.

**U.S.PATENT APPLICATION PUBLICATIONS**

Examiner Initial*	Cite No	Publication Number	Kind Code <sup>1</sup>	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	20020072861		2002-06-13	Ramakrishnan et al.	Whole Document
	2	20020106660		2002-08-08	Ramakrishnan et al.	Whole Document
	3	20040034207		2004-02-19	Ramakrishnan et al.	Whole Document

/Eric Dejong/

12/18/2010

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**  
( Not for submission under 37 CFR 1.99)

Application Number		10578946
Filing Date		2007-02-05
First Named Inventor	John SantaLucia	
Art Unit	1631	
Examiner Name	ERIC S. DEJONG	
Attorney Docket Number	DNASOFT-10963	

4	20050154538		2005-07-14	Ramakrishnan et al.	Whole Document
5	20050336997		2005-02-17	Steitz et al.	Whole Document
6	20050234227		2005-10-20	Steitz et al.	Whole Document
7	20050272681		2005-12-08	Steitz et al.	Whole Document
8	20060136146		2006-06-22	Steitz et al.	Whole Document
9	20020086308		2002-07-04	Steitz et al.	Whole Document
10	20030153002		2003-08-14	Steitz et al.	Whole Document
11	20030171327		2003-09-11	Steitz et al.	Whole Document
12	20030232779		2003-12-18	Steitz et al.	Whole Document

If you wish to add additional U.S. Published Application citation information please click the Add button.

**FOREIGN PATENT DOCUMENTS**

Examiner Initial*	Cite No	Foreign Document Number <sup>3</sup>	Country Code <sup>2</sup>	Kind Code <sup>4</sup>	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T <sup>5</sup>
-------------------	---------	--------------------------------------	---------------------------	------------------------	------------------	---	--	----------------

/Eric Dejong/

12/18/2010

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**  
( Not for submission under 37 CFR 1.99)

Application Number	10578946
Filing Date	2007-02-05
First Named Inventor	John SantaLucia
Art Unit	1631
Examiner Name	ERIC S. DEJONG
Attorney Docket Number	DNASOFT-10963

1								<input type="checkbox"/>
---	--	--	--	--	--	--	--	--------------------------

If you wish to add additional Foreign Patent Document citation information please click the Add button

**NON-PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>5</sup>
	1	ADLEMAN, L.M., "Molecular Computation of Solutions to Combinatorial Problems," Science, 1994, 266:1021-1024.	<input type="checkbox"/>
	2	BOURNE P.E., "CASP and CAFASP experiments and their findings," In Structural Bioinformatics, 2003, Bourne, P.E. and Weissig, H, eds., pp. 499-505, Wiley-Liss, Inc., Hoboken.	<input type="checkbox"/>
	3	KRIEGER, E., et al., "Homology modeling," In Structural Bioinformatic, 2003, Bourne, P.E. and Weissig, H., eds., pp. 507-21, Wiley-Liss, Inc., Hoboken.	<input type="checkbox"/>
	4	CHIVIAN, D., et al., "Ab initio methods," In Structural Bioinformatics, 2003, Bourne, P.E. and Weissig, H. eds., pp. 547-57, Wiley-Liss, Inc., Hoboken.	<input type="checkbox"/>
	5	MATHEWS, D.H., et al., "Expanded Sequence Dependence of Thermodynamic Parameters Improves Prediction of RNA Secondary Structure," J Mol Biol, 1999, 288:911-40.	<input type="checkbox"/>
	6	TINOCO, I., Jr. and BUSTAMANTE, C., "How RNA Folds," J Mol Biol, 1999, 293:271-281.	<input type="checkbox"/>
	7	TURNER, D.H., et al., "RNA Structure Prediction," Annu Rev Biophys Biophys Chem, 1988, 17:167-192.	<input type="checkbox"/>
	8	ZUKER, M and SANKOFF, D, "RNA Secondary Structures and their Prediction," Bull Math Biol, 1984, 46:591-621.	<input type="checkbox"/>

/Eric Dejong/

12/18/2010

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**  
( Not for submission under 37 CFR 1.99)

Application Number	10578946
Filing Date	2007-02-05
First Named Inventor	John SantaLucia
Art Unit	1631
Examiner Name	ERIC S. DEJONG
Attorney Docket Number	DNASOFT-10963

9	ZUKER, M, "On Finding All Suboptimal Foldings of an RNA Molecule," Science, 1989, 244:48-52.	<input type="checkbox"/>
10	PLEIJ, C.W., "Structure and function of RNA Pseudoknots," Genet Eng, 1995, 17:67-80.	<input type="checkbox"/>
11	GUTELL, R.R., et al, "Identifying constraints on the higher-order structure of RNA: continued development and application of Comparative sequence analysis methods," Nuc Acids Res, 1992, 20:5785-95.	<input type="checkbox"/>
12	KEARSLEY, S.K., "On the orthogonal transformation used for structural comparisons," Acta Cryst, A45, 1989, pp. 208-10.	<input type="checkbox"/>
13	MOROSYUK, S.V., et al., "Structure and Function of the Conserved 690 Hairpin in Escherichia coli 16 S Ribosomal RNA. II. NMR Solution Structure," J Mol Biol, 2001, 307:197-211.	<input type="checkbox"/>
14	SINGH, U.C. and KOLLMAN, P.A., "An approach to calculating electrostatic charges for molecules," J Comp Chem., 1984, 5:129-45.	<input type="checkbox"/>
15	BAYLY, C.I., et al., "A well-behaved electrostatic potential based method using charge restraints for deriving atomic charges: the RESP model," J Phy Chem, 1993, 97:10269-10280.	<input type="checkbox"/>
16	BESLER, B.H., et al., "Atomic energies derived from semiempirical methods," J Comp Chem, 1990, 11:431-9.	<input type="checkbox"/>
17	CORNELL, W.D., et al., "Application of RESP charges to calculate conformational energies, hydrogen bond energies, and free energies of solvation," J Am Chem Soc, 1993, 115:9620-9631.	<input type="checkbox"/>
18	CORNELL, W.D., et al., "A Second Generation Force Field for the Simulation of Proteins, Nucleic Acids, and Organic Molecules," J Am Chem Soc, 1995, 117:5179-5197.	<input type="checkbox"/>
19	CASE, D.A., et al., AMBER 7, 2002, Univ Calif, San Fran	<input type="checkbox"/>

/Eric Dejong/

12/18/2010

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**  
( Not for submission under 37 CFR 1.99)

Application Number	10578946
Filing Date	2007-02-05
First Named Inventor	John SantaLucia
Art Unit	1631
Examiner Name	ERIC S. DEJONG
Attorney Docket Number	DNASOFT-10963

20	CIEPLAK, P., et al., "Application of the Multimolecule and Multiconformational RESP Methodology to Biopolymers: Charge Derivation for DNA, RNA, and Proteins," J Comp Chem, 1995, 16:1357-1377.	<input type="checkbox"/>
21	CIEPLAK, P., et al., "Molecular mechanical models for organic and biological systems going beyond the atom centered two body additive approximation: aqueous solution free energies of methanol and N-methyl acetamide, nucleic acid base, and amide hydrogen bonding and chloroform/water partition coefficients of the nucleic acid bases," J Comp Chem, 2001, 22:1048-1057.	<input type="checkbox"/>
22	DARDEN, T.A., et al., "Particle mesh Ewald: An N · log(N) method for Ewald sums in large systems," J Chem Phys, 1993, 98:10089-92.	<input type="checkbox"/>
23	CHEATHAM, T.E., et al., "Molecular Dynamics Simulations on Solvated Biomolecular Systems: The Particle Mesh Ewald Method Leads to Stable Trajectories of DNA, RNA, and Proteins," J Am Chem Soc, 1995, 117:4193-4194.	<input type="checkbox"/>
24	FRANCH et al., "Antisense RNA Regulation in Prokaryotes: Rapid RNA/RNA interaction Facilitated by a General U-turn Loop Structure," J Mol Biol, 1999, 294:1115-1125.	<input type="checkbox"/>
25	ZHOU, H., et al., "Incorporating Residual Dipolar Couplings into the NMR Solution Structure Determination of Nucleic Acids," Biopolymers, 2000, 52:168-180.	<input type="checkbox"/>
26	MISRA, V.K., and DRAPER, D.E., "Mg2+ binding to tRNA revisited: the nonlinear poisson-boltzmann model," J Mol Biol, 2000, 299:813-25.	<input type="checkbox"/>
27	AUFFINGER, P., et al., "The Mg2+ Binding Sites of the 5S rRNA Loop E Motif as Investigated by Molecular Dynamics Simulations," Chem Biol, 2003, 10:551-61.	<input type="checkbox"/>
28	JAYARAM, B., et al., "Monte Carlo Simulation Studies on the Structure of the Counterion Atmosphere of B-DNA. Variations on the Primitive Dielectric Model," Macromol, 1990, 23:3156-65.	<input type="checkbox"/>
29	BOSCHITSCH, A.H., et al., "Fast Boundary Element Method for the Linear Poisson-Boltzmann Equation," J Phys Chem B, 2002, 106:2741-54.	<input type="checkbox"/>
30	SHARP, K.A. and HONIG, B., "Salt effects on nucleic acids," Curr Opin Struct Biol, 1995, 5:323-328.	<input type="checkbox"/>

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**  
( Not for submission under 37 CFR 1.99)

Application Number	10578946
Filing Date	2007-02-05
First Named Inventor	John SantaLucia
Art Unit	1631
Examiner Name	ERIC S. DEJONG
Attorney Docket Number	DNASOFT-10963

31	RECORD, M.T., et al., "Analysis of effects of salts and uncharged solutes on protein and..." Adv Protein Chem, 1998, 51:281-353.	<input type="checkbox"/>
32	YOUNG, M.A., et al., "Intrusion of Counterions into the Spine of Hydration in the Minor Groove of B-DNA: Fractional Occupancy of Electronegative Pockets," J Am Chem Soc, 1997, 119:59-69.	<input type="checkbox"/>
33	NEEDLEMAN, S.B. and WUNSCH, C.D., "A General Method Applicable to the Search for Similarities in the Amino Acid Sequence of Two Proteins," J Mol Biol, 1970, 48:443-53.	<input type="checkbox"/>
34	GOTOH, O., "An improved algorithm for matching biological sequences," J Mol biol, 1982, 162:705-8.	<input type="checkbox"/>
35	MATHEWS, D.H. and TURNER, D.H., "Dyalign: an algorithm for finding the secondary structure common to two RNA sequences," J Mol Biol, 2002, 317:191-203.	<input type="checkbox"/>
36	WIMBERLY, B.T., et al., "Structure of the 30S ribosomal subunit," Nature, 2000, 407:327-339.	<input type="checkbox"/>
37	BAN, N., NISSEN, P., et al., "Placement of protein and RNA structures into a 5A° -resolution map of the 50S ribosomal subunit," Nature, 1999, 400:841-847.	<input type="checkbox"/>
38	CATE, J.H., et al., "X-ray Crystal Structures of 70S Ribosome Functional Complexes," Science, 1999, 285:2095-2104.	<input type="checkbox"/>
39	YUSUPOV, M.M., et al., "X-ray Crystal Structures of 70S Ribosome Functional Complexes," Science, 2001, 292:883-896.	<input type="checkbox"/>
40	BAN, N., et al., "The Complete Atomic Structure of the Large Ribosomal Subunit at 2.4 A Resolution," Science, 2000, 289:905-920.	<input type="checkbox"/>
41	HARMS, J. et al., "High Resolution Structure of the Large Ribosomal Subunit from a Mesophilic Eubacterium," Cell, 2001, 107:679-688.	<input type="checkbox"/>

/Eric Dejong/

12/18/2010

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**  
( Not for submission under 37 CFR 1.99)

Application Number	10578946
Filing Date	2007-02-05
First Named Inventor	John SantaLucia
Art Unit	1631
Examiner Name	ERIC S. DEJONG
Attorney Docket Number	DNASOFT-10963

42	TAMURA et al., "Sequence and Structural Conservation in RNA Ribose Zippers," J Mol Biol, 2002, 320:455-474.	<input type="checkbox"/>
----	---	--------------------------

If you wish to add additional non-patent literature document citation information please click the Add button

**EXAMINER SIGNATURE**

Examiner Signature	/Eric Dejong/	Date Considered	12/18/2010
--------------------	---------------	-----------------	------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> See Kind Codes of USPTO Patent Documents at [www.USPTO.GOV](http://www.USPTO.GOV) or MPEP 901.04. <sup>2</sup> Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>3</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>4</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>5</sup> Applicant is to place a check mark here if English language translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /E.D./